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MARTIN AUDIO
LONDON

The Martin Experience

This equipment conforms to the requirements of the EMC Directive 89/336/EEC, amended by 92/31/EEC and 93/68/EEC and the requirements of the Low Voltage Directive 73/23/EEC, amended by 93/68/EEC.

Standards Applied	EMC	Emission	EN55103-1:1996
		Immunity	EN55103-2:1996
	Electrical Safety		EN60065:1993 (ICT500)
			EN60065:1998 (M2)

1 INTRODUCTION

Thank you for purchasing a Martin Audio M2 system controller and ICT500 compact loudspeaker system. The M2 is used to optimise the performance of the ICT500, whether it is used as a stand-alone system or with additional sub-bass enclosures.

2 UNPACKING

Every Martin product is built to the highest standard and thoroughly inspected before it leaves the factory. After unpacking the unit, examine it carefully for any signs of transit damage and inform your dealer if any such damage is found. It is suggested that you retain the original packaging so that the unit can be repacked at a future date if necessary.

Please note that Martin Audio and its distributors cannot accept responsibility for damage to any returned product through the use of non-approved packaging.

3 MAINS CONNECTION

The M2 is supplied with a captive mains lead with an integral U.K. BS1363 3 pin plug. **Should the moulded plug be removed and another plug substituted the cable must be re-wired as below.**

GREEN/YELLOW	-	EARTH
BROWN	-	LIVE
BLUE	-	NEUTRAL

WARNING: The M2 Controller must always be operated with the mains safety earth connected.

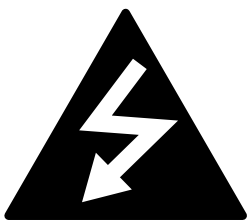
The M2 is supplied from the factory in either 100-120V or 200-240V versions
Mains voltage tolerance +/- 10% on each setting

Fuse: - type 'T' semi-delay 200mA (L) 100-120V
Fuse: - type 'T' semi-delay 100mA (L) 220-240V

NO ATTEMPT SHOULD BE MADE BY THE USER TO CHANGE THE MAINS OPERATING VOLTAGE FROM THAT SUPPLIED, REFER TO QUALIFIED PERSONNEL ONLY

This equipment must be earthed.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
DO NOT EXPOSE TO RAIN
OR MOISTURE



It should not be necessary to remove any protective earth or signal cable shield connections.

4 SAFETY FIRST

It is important that loudspeaker systems are used in a safe manner. Please take some time to review the following points concerning safe use of ICT500 compact loudspeakers.

Professional loudspeakers are capable of producing extremely high sound levels and should be used with care. Hearing loss is cumulative and can result from levels above 90dB if people are exposed for a long period. Never stand close to loudspeakers driven at high level.

4.1 Tripod mounting

The ICT500 incorporates a pole mounting socket to facilitate mounting on tripod stands. When using stands, the following precautions are advised:

Ensure that the stand will support the weight of the speaker by checking the stand manufacturers rating.

Make sure that the stand is placed on a level surface and that its legs are fully extended.

Do not place more than one speaker on each stand.

Run cables so that they do not present a trip hazard which could pull the speaker over.

When used outdoors in the wind, it may be necessary to add some weight to the base of the stand.

When using a pole mount with a sub-bass system, observe similar precautions.

4.2 Stacking

Ensure that the floor or stage is level and solid.

Do not stack speakers too high outdoors where winds could topple the stack.

Be aware that speakers producing very high power levels can move or creep. To avoid this, place friction material between the floor and speaker and between each speaker.

4.3 Rigging and suspension

WARNING: Suspending the system should only be done by qualified personnel following safe rigging practices. Secure fixings to the building structure are vital. Seek help from architects, structural engineers or other specialists if in any doubt.

5 M2 CONNECTIONS

The M2 should be connected immediately preceding the power amplifier(s) and after any such devices as preamps, mixing desks or other equalisers.

Input connections, which are balanced, are via combination XLR type sockets and TRS (tip/ring/sleeve) "stereo" jack sockets, wired as follows:

Pin 1 / jack sleeve	=	Signal 0V
Pin 2 / jack tip	=	Signal + (hot)
Pin 3 / jack ring	=	Signal - (cold)

If driving the M2 from an unbalanced source, mono jack plugs may be used. Under some conditions, this may result in a hum loop. If so, alternative connections, via an XLR type plug or a TRS jack should be used, wired as follows:

Pin 1 / jack sleeve	=	Not connected
Pin 2 / jack tip	=	Cable inner (signal)
Pin 3 / jack ring	=	Cable screen (ground)

M2 outputs are pseudo balanced on stereo jack sockets.

Pin 1 / jack sleeve	=	Signal 0V
Pin 2 / jack tip	=	Signal + (hot)
Pin 3 / jack ring	=	Signal - (cold)

6 M2 OPERATION

The M2 is a full range 2-channel system controller which is recommended for use with the Martin Audio ICT500 loudspeaker system. If extra sub bass cabinets are required the M2 has a dedicated sub bass output TRS jack socket. This output is a left and right mono summed output providing the correct crossover point and equalisation to drive additional sub bass amplifiers.

7 ICT 500 COMPACT LOUDSPEAKER

The Martin Audio ICT500 is a compact full-range loudspeaker designed for professional applications where both compact size and high output are required. The ICT500 is capable of producing SPL's normally associated with larger enclosures and its high efficiency and superior dynamic performance ensures smooth natural reproduction. The ICT500 has been engineered to combine high level reproduction with a very wide bandwidth, accuracy and maximum intelligibility.
To achieve extended bandwidth and high output capability from an enclosure only 55 litres in volume, the ICT500 features two forward facing 10" (250mm) drivers utilising patented Pro ICT™ (Inductively Coupled Transducer) technology plus two internally mounted long excursion high powered 10" (250mm) bass drivers uniquely aligned to extend the bass response below 45Hz.

The revolutionary ICT™ principle uses the magnetic field generated by the low frequency driver's voice coil to inductively drive an aluminium high frequency diaphragm located at the centre of the unit and horn loaded by a phase plug and waveguide.

Because the HF diaphragm is energised by induction, it has no voice coil. This means that the most common form of failure in music systems - tweeter voice coil burnout - has been eliminated. In addition, although the ICT™ unit is a true two-way device, there is no separate electrical crossover network, since the crossover function is inherent in the ICT™ principle. An internally mounted filter ensures smooth transition from the bass section into the twin 10" (250mm) ICT™ drivers.

8 AMPLIFIER POWER

The ICT 500 is designed to be used with a professional standard power amplifier capable of producing 500-1000 watts per channel into 4 ohms.

Care should be taken to avoid switch-on surges which can result in momentary power peaks in excess of specified ratings. When powering up a sound system, it is important to switch on the amplifiers after the mixer and electronic crossover etc. have stabilised. When powering down the system, reverse the sequence and switch off the amplifiers first.

8.1 Connecting to an amplifier

The panel at the rear of the ICT500 is fitted with a Neutrik Speakon NL4 connector wired as follows:

PIN 1-	-ve
PIN 1+	+ve
PIN 2-	N/C
PIN 2+	N/C

8.2 Cable lengths

When connecting an ICT500 to an amplifier, it is recommended that the return resistance of the cable used is less than one tenth of the nominal impedance of the system or systems in parallel. The table below gives an indication of the maximum permissible cable runs for various conductor cross-sectional areas driving 4 ohm loads.

Conductor CSA	**Maximum Cable Run 4 ohms (1 x ICT 500)**
1.0mm^2	11m
1.5mm^2	17m
2.0mm^2	22m
2.5mm^2	29m
4.0mm^2	44m
6.0mm^2	66m

To work out the actual return resistance R for cable run of length L, with each conductor having cross-sectional area A, use the formula:

$$R = \frac{2 \times 0.017 \times L}{A}$$

9 WARRANTY

Martin Audio ICT500 Compact Loudspeakers are warranted against manufacturing defects in materials or craftsmanship over a period of 5 years from the date of original purchase. The M2 System Controller is warranted against manufacturing defects in materials or craftsmanship over a period of 1 year from the date of original purchase. During the warranty period Martin Audio will, at it's discretion, either repair or replace products which prove to be defective provided that the product is returned in its original packaging, shipping prepaid, to an authorised Martin Audio service agent or distributor.

Martin Audio Ltd. cannot be held responsible for defects caused by unauthorised modifications, improper use, negligence, exposure to inclement weather conditions, act of God or accident, or any use of this product that is not in accordance with the instructions provided by Martin Audio.
Martin Audio is not liable for consequential damages.

This warranty is exclusive and no other warranty is expressed or implied.
This warranty does not affect your statutory rights.

10 TECHNICAL SPECIFICATIONS

M2

GAIN	0dB @ 1kHz
HUM & NOISE	-90dBm 20Hz-20kHz
INPUTS	Left & right, 2 x combined XLR / 1/4" TRS jack, electronically balanced
OUTPUTS	Left, right & sub-bass, 3 x 1/4" TRS jack, pseudo balanced
MAXIMUM INPUT/OUTPUT	+20dBu
ELECTRONIC CROSSOVER FREQUENCY	120Hz
FRONT PANEL INDICATORS	Full-range LED
MAINS SUPPLY	100-120V or 200-240V AC 50/60Hz
DIMENSIONS	(W) 483mm x (H) 44mm x (D) 102mm (W) 19ins x (H) 1.75ins x (D) 4.0ins
WEIGHT	1.2kg (2.6lbs)
SHIPPING DIMENSIONS	(W) 545mm x (H) 120mm x (D) 235mm (W) 21.5ins x (H) 4.7ins x (D) 9.3ins
SHIPPING WEIGHT	1.8kg (3.9lbs)

ICT500

TYPE	Twin-driver ICT™ with internal bass drivers
FREQUENCY RANGE	45Hz-18kHz (with equaliser)
DRIVERS	2 x 10" (250mm) full-range ICT™, 2 x 10" (250mm) internally mounted bass drivers
RATED POWER	700W AES, 2800W peak
RECOMMENDED AMPLIFIER	500-1000W into 4 ohms
SENSITIVITY	96dB 1W @ 1m
MAXIMUM SPL	121dB continuous, 127dB peak
IMPEDANCE	4 ohms nominal
DISPERSION (-6dB POINTS)	100 degs horizontal x 40 degs vertical
ENCLOSURE	Multi-laminate birch ply
FINISH	Textured paint
PROTECTIVE GRILLE	Perforated steel with 48% free air flow
CONNECTORS	1 x Neutrik NL4
FITTINGS	5 x M8 inserts 1 x pole mount socket
DIMENSIONS	(W) 565mm x (H) 415mm x (D) 440mm (W) 22.25ins x (H) 16.3ins x (D) 17.3ins
WEIGHT	31kg (68.3lbs)
SHIPPING DIMENSIONS	(W) 625mm x (H) 470mm x (D) 505mm (W) 24.6ins x (H) 18.5ins x (D) 19.9ins
SHIPPING WEIGHT	33kg (72.75lbs)

Due to our policy of continuous product improvement all specifications are subject to change without notice.

M2 System Controller & ICT500 Compact Loudspeaker

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The Martin Experience

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M2 System Controller & ICT500 Compact Loudspeaker

User's Guide

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